



*National Committee for Technological Development*

# **EVALUATION**

of the COST actions  
implemented with Hungarian participation  
(1991-1998)

Budapest, 1999.

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The authors wish to express their thanks for the good cooperation with the OMFB  
COST and EUREKA Secretariat, to Mr. Pál Koncz and Ms. Márta Marjay-Kiss.

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## ***Introduction***

In accordance with the evaluation strategy approved by the OMFB Council in 1996, the sub-programmes financed by the Central Technological Development Programme are being systematically exposed to independent ex-post evaluation. The evaluation strategy lays the emphasis on the highest possible transparency of the utilisation of public funds and, from the methodology point of view, on the wide-range application of performance indicators, rather than on that of simple cost-benefit analyses.

This is the sixth ex-post evaluation in OMFB that was started in Autumn 1998 and completed by Spring 1999. The work was completed by two young economists, Ms. Andrea Orisek and Mr. Zoltán Andrási. They prepared an analytical report on the utilisation of public funds for the COST co-operation and focussed on the direct and indirect impacts of the actions. They elaborated also some proposals and, as usually, it is a continuous task of the OMFB staff to utilise these proposals during the daily programme management work and in the innovation policy development as well.

Budapest, August 1999.

Dr. Ádám Török  
President of OMFB

## 1. Scope of evaluation

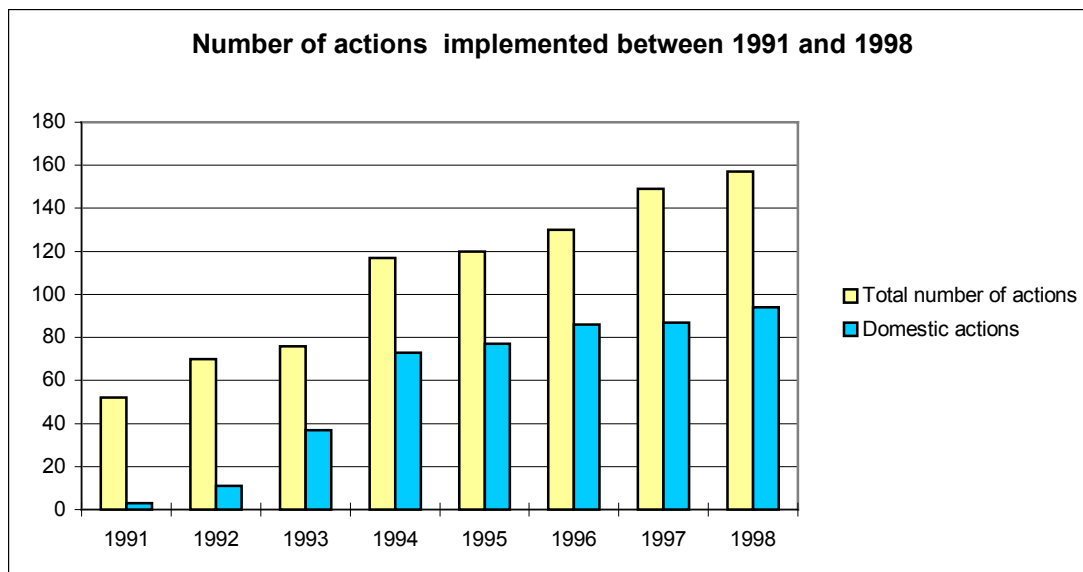
COST<sup>1</sup> is an European co-operation programme where scientists carry out research-development (R&D) activities of their own area within an international co-operation. This first European research co-operation programme, launched in 1971 compliant to the initiative of EC/EU, covers basically the domain of pre-competitive scientific and technological research activities.

Projects within COST are called ‘actions’. Any of the member states may initiate such a joint research action. The present research areas are as follows: informatics, telecommunication, traffic and transport, oceanography, material research, environment protection, meteorology, agriculture and biotechnology, food industry technology, social sciences, health care, building engineering sciences, chemical sciences, forestry, wood industry and paper industry, solid state physics, physical sciences, nanosciences.

New participants may also join already existing actions by accepting a joint letter of intent, nevertheless the participants must have some *research funds of their own*. This is a significant precondition as *COST does not finance any research activities*, the budget of the actions is covered by the participants from the funds available in their own country.

At present COST has 28 member states; Hungary has been participating in the co-operation since November 1991. Changes in the number of actions over the years since Hungary’s accession are shown in *Figure 1*. It can be seen that the number of actions joined by Hungarian scientists has increased in spite of their being compelled to find some other funds for domestic research activities.

**Figure 1**



<sup>1</sup> Coopération européenne dans le domaine de la recherche scientifique et technique (European co-operation in scientific and technological research)

Figure 2 showing data about the participation of Hungary and other countries from the Central and Eastern European region indicates that, measured by the number of actions, Hungary has a stable pole position in the region.

Figure 2

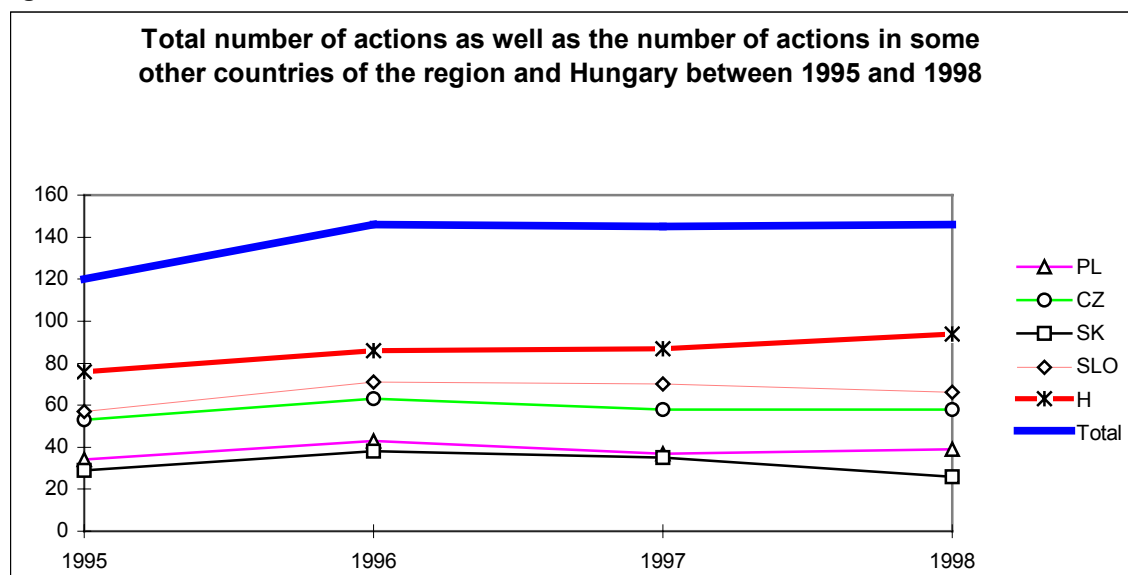


Table 1 shows the dynamics of costs of COST-related activities between 1991 and 1998, covered from the Hungarian state budget.

Table 1 – Payments from COST co-operations budget and KMÜFA (Central Technological Development Fund) between 1991 and 1998, in HUF million

Year	COST contributions <sup>2</sup>		OMFB grants to domestic participants (OMFB data)
	membership fee	basis	
1991	-	-	-
1992	-	-	3,183
1993	-	-	2,811
1994	5,892	-	5,909
1995	5,976	0,324	9,803
1996	6,682	-	13,683
1997	7,291	0,324	18,605
1998	8,633	0,324	31,386
<b>Total</b>	<b>34,474</b>	<b>0,972</b>	<b>85,380</b>

In the following we shall present the characteristic features of the actions. First we assess programme management (constituting the basis of the actions), then commence to the data and characteristics of action participants. Although COST action costs are not financed from one joint fund, nevertheless we have deemed it important to survey the appropriate areas of financial support and pertaining results as well. We have been urged to do this, among others, by the in-depth interviews made during the evaluation,

<sup>2</sup> Calculated at 1998 prices, state budget expenses

as the „unfinanced” character of the actions has led to much misunderstanding and dissatisfaction. We should like to highlight the fact that R&D co-operation creates, in spite of the relatively low amount of grants, a significant added value and offsets the pertinent expenditures both in relative and absolute terms. The main point we should like to support by the figures of our study is that, due to the special characteristics of COST, invested amounts bring actually much larger tangible and intangible resources ‘in motion’. This added value manifests itself both in the mobilised financial funds and the new projects, scholarships, studies and other results established on the basis of the contact system created by COST.

## **2. Goal, methods and sources of evaluation**

Our study targets the evaluation, description and analysis of results connected to COST co-operations and actions as well as to inform decision makers and the public on the conclusions drawn. In the course of evaluation, external effects and indirect results were measured by the methods of applied social sciences.<sup>3</sup>

We have sent a questionnaire by post to all actions involving Hungarian participants, addressed to the Hungarian leader of the action<sup>4</sup>, based on the list we received from OMFB COST Secretariat. (The questionnaire is enclosed in the Annex.) We had mailed altogether 153 questionnaires at the end of October 1998, out of which 106 questionnaires were returned (after the second requesting letter) by December (i.e. this was the number of questionnaires filled in and returned in a manner enabling evaluation). This feed-back rate of 69.3% is quite good when compared with the figures indicated in international surveys.<sup>5</sup>

Besides a full-fledged data evaluation by questionnaires, in-depth interviews were also made. 15 actions out of the full basic set of 153 were selected by an expert group, while another 15 actions were selected in a random manner. By this we ensured that, besides the participants working much and actively in COST (experts’ list), the opinion of „average” COST members would also be included by the evaluation. ) In the course of actions we paid a special attention to the interviewed persons who were members of the Technical Committee (hereinafter: TC) and/or Management Committee (hereinafter: MC). Altogether 23 interviews have been completed, out of which 5 involved TC members and 6 MC chairmen. We used standard interview guidelines for making the interviews. A short case study was written subsequent to each interview. (The interview guidelines are enclosed in the Annex.)

The staff of COST Secretariat was also interviewed where we concentrated mainly on problems and issues surfaced in connection with action management and organization.

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<sup>3</sup> At this point we relied, to a great extent, on OMFB’s evaluation strategy. We should like to express our thanks to Balogh Tamás (OMFB) for the help and encouragement we received from him through the whole evaluation.

<sup>4</sup> Officially appointed MCI member.

<sup>5</sup> In case of 1997 Bruxelles evaluation this proportion was 27 and 21.7% volt. (COST Research Evaluation, March 1997, Appendix A, Page 2)

### **3. Description and evaluation of programme management**

Due to its structure, co-ordination on the national level is of great importance within COST. On the one hand, funds required to the actions are to be granted on a national level and, on the other hand, various committee members (CSO and TC) are to be appointed on a national level, too.

All member countries have a national co-ordinator who, in certain countries, is a state clerk (often an official of the respective ministry) or, in some other countries, is employed by a university or research institute. Three of the countries in the region joining COST co-operation only lately (Poland, Slovenia and Hungary) have a ministry-level co-ordinator, while four of them have university co-ordinators (Croatia, Czech Republic, Slovakia and Estonia). Since our 1991 accession, Hungarian COST activities are co-ordinated by Mr. Pál Koncz, Head of the COST and EURECA Secretariat of OMFB's International Relations Division whose work is aided by a secretariat having a staff of three. Based on the experiences gathered by the interviews we may say the work of this secretariat was an important factor which facilitated the quick boom of actions with Hungarian participation after 1991. Another conclusion drawn from the interviews is that those of the above-mentioned newly joined countries (from where our „rivals” in international R&D projects come by all probability) were more likely to “appear” on the scene in COST actions (and „appear” is meant here in the actual sense of the word), which had a type of co-ordination similar to the Hungarian model.

The most important task of COST and EURECA Secretariat was to follow-up, collect and transmit information. As part of these activities it prepared a publication entitled “Questions and Answers” providing information on the co-operation and the actions. Various OMFB events have been used for distributing this leaflet informing potential participants on planned and/or newly launched actions. Information is transmitted to scientists first of all through the network of TC members and the Bulletin of OMFB. An Internet site is also being prepared.

From 1998 OMFB has introduced new grant types in order to facilitate Hungarian activities connected to COST co-operation. One of these is a support granted to TC members, the other is a grant to Hungarian MC chairmen partly covering administrative costs.

In order to utilize benefits from COST actions and facilitating the development of international research contacts, the secretariat has to have constantly updated information on the actions and/or the amount of support granted by OMFB. The ongoing monitoring of information enables them to find the areas where the intensity of contacts has decreased for some reason.<sup>6</sup> (E.g. we should think of the fact that nearly 20% of actions have not yet requested any OMFB grants to their activities.) In order to show that this “monitoring” is not an easy task at, let us enumerate some figures about the actions: they last for five years on the average, but actions lasting six or seven years are no rarity, either; in two thirds of the cases the Hungarian scientists

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<sup>6</sup> In chapter 'Summary' we shall consider the action alternatives to be applied in such cases.



join the action in the very first year; one action comprises scientists from thirteen countries on the average, covering at present more than 16 scientific domains. These figures indicate that a wide scope of interest is a prerequisite of everyday management activities (covering many areas from agricultural science till physics). Since 1991, there has been a quick boom of actions involving Hungarian participants, and as an action may last for several years, thus its ‘physical’ follow up means a tough work for the secretariat.

Another complication and a new dimension of the problem is created by the fact that the presently existing 153 actions are led, on the Hungarian side, by 124 scientists i.e. there are some researchers controlling more than one actions. (There have been nineteen scientists having two actions, two researchers had three and one researcher four actions.) But the problem is even more complicated as the above situation does not automatically imply that a person controls four actions concurrently. In reality we see here a phenomenon which has surfaced in EU countries already earlier: as it was indicated by the participants in the interviews, the scientists who have already become involved in a COST action submit a new proposal with a “new”, but similar topic when their previous action is about to be completed. In this way they can stay within COST for ten years on the average.

It can be stated unambiguously from the questionnaires and in-depth interviews that the activities of OMFB COST Secretariat were evaluated positively by all participants. In the questionnaire, action leaders were requested to evaluate the activities of OMFB COST Secretariat by giving it a score between one and five. We have stated the received score was 4 (“good”) on the average. And when we take into consideration that the pertinent score of the COST Secretariat in Brussels was only a “three”, then this is rather a compliment for the OMFB staff.

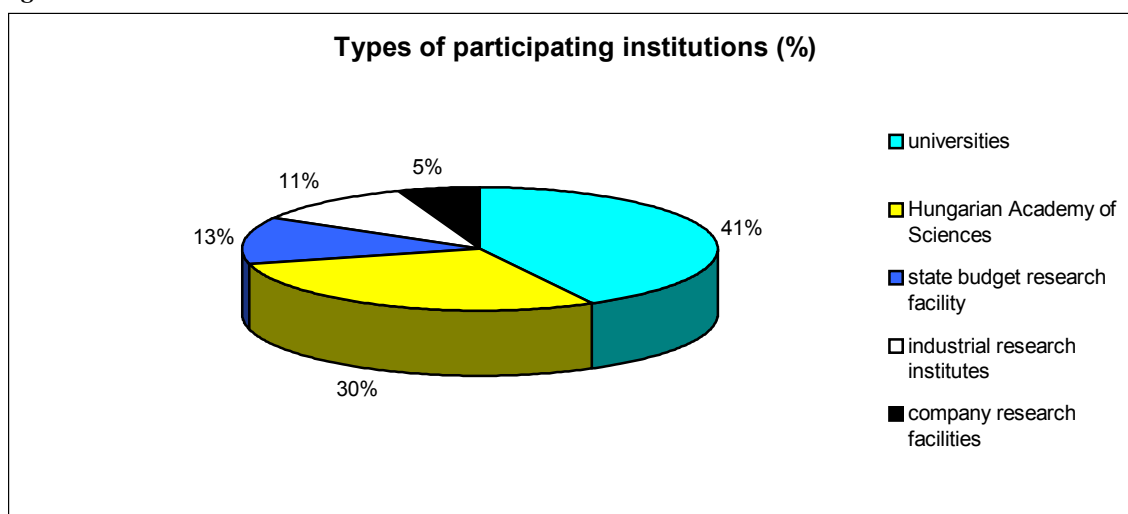
#### **4. Data on actions**

Based on the information and consequences gained from the questionnaires, we first describe some general characteristics of the actions. In order to provide a full picture, we shall analyze the distribution of grants and resources used, too. Finally, we shall discuss the direct and indirect results of the actions.

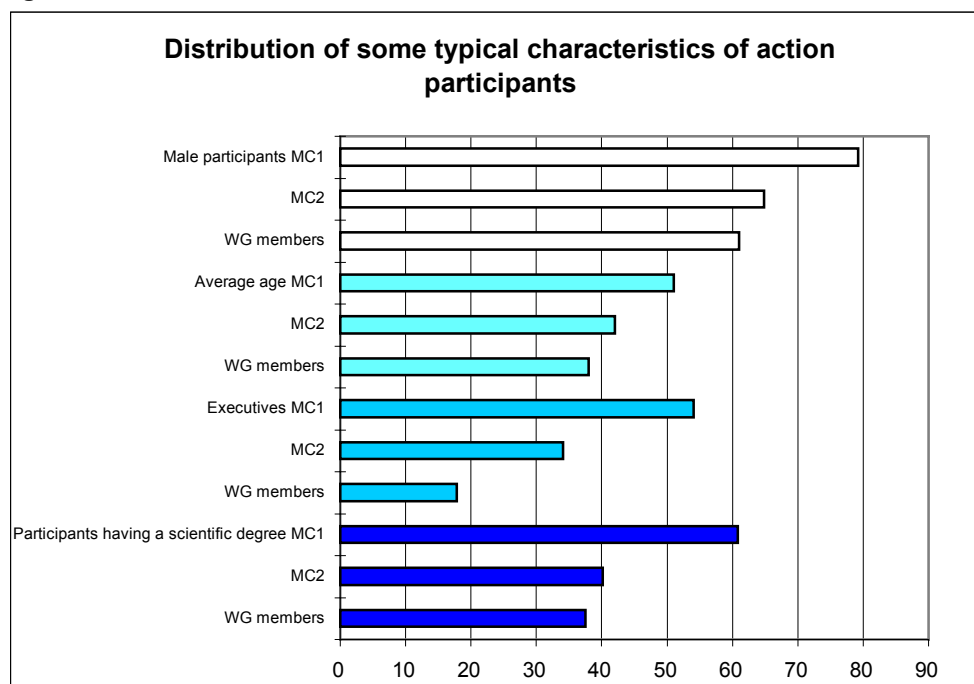
##### **4.1. Main characteristics of the participants**

When analyzing the geographical distribution of the ninety scientists returning the questionnaire we can state that the proportion of those in Budapest is quite high (72%). Scientists in the countryside were also mostly from the larger cities (Debrecen, Szeged, Miskolc). This high proportion of scientists from the capital/major cities may also be due to the fact that the sample contained mostly university/academic institutes (Figure 3), what explains the nearly dominating role of the capital and the university cities.

The high proportion of researchers working at research facilities of the universities and the Hungarian Academy of Sciences (MTA) is a natural phenomenon (41% and 30%), as we have to do here mostly with pre-competitive research activities.

**Figure 3**

The participants of the evaluation were also requested to give information as to their sex, age, scientific degree and position (these persons were usually the Hungarian leaders of the action). The same information was requested about two other action members (MC2, MC3) considered as the most important members (Figure 4). The distribution of the answers indicates that the scientist No. 1 is, in a typical case, a man around 50, has a PhD or a higher degree and works in an executive position. The further we go from the action leader (i.e. when we look at the members ranked second or third), the less dominant these dominant features are – there are less men among them (the proportion of men was in case of first ranked action members 79%, while this figure was in case of the third action members only 61%), their average age is lower (38 instead of 51), have a lower percentage of PhD (38% instead of 61%) and are less often in an executive position (18% instead of 54%). The received data support our experience gained in the interviews that COST actions provide opportunities to young scientists just starting their scientific career at the universities or research institutes to give evidence of their knowledge on the international scene. Furthermore we have stated that the majority of new-generation young scientists obtain their PhD already at the beginning of their career and have the language skills enabling them to join international-level scientific research activities.

**Figure 4**

## 4.2. Full sample data

As it was stated in the introduction, COST actions are not financed from joint financial funds; resources must be provided by the participants. However, OMFB provides some support through the R&D Infrastructure (“Mecenatúra”) Programme<sup>7</sup>. The distribution of the various grants is shown in Table 2. Support may be requested for the following purposes:

- Participation at MC meeting: once a year for MC1<sup>8</sup>  
     Exceptional cases: as a chairman of a Hungarian MC without any restrictions  
                             maximum three times as a vice-chairman of a Hungarian MC  
                             maximum two times as a leader of a Hungarian WG<sup>9</sup>
- Participation in TC meetings: without any restriction
- Organizational costs of events (conferences, workshops etc.) in Hungary
- Partially covering TC organizational costs
- Partially covering organizational costs related to the position of MC chairmen

Travel cost grants are always to be requested in advance and in writing from the Head of the COST Secretariat. A preliminary cost estimation, the form sheet of the “Mecenatúra” Fund and the invitation letter are to be enclosed. Funds for travel costs, accommodation and per diem can be requested, but there is a subsequent commitment

<sup>7</sup> The evaluation report on the R&D Infrastructure Programme has been published by OMFB in 1998.

<sup>8</sup> Since 1998, the deputy of the Hungarian action leader (MC2) is also entitled to one travel grant per year.

<sup>9</sup> Working Group: a smaller research group in COST actions.

to account for the funds used. Furthermore, a short travel report is also be submitted to „Mecenatúra” Fund Office.

**Table 2*****Distribution of COST support per year between 1995 and 1998***

Year	MC travel costs				TC travel costs				Events organized				TC organized <sup>10</sup>				MC organized <sup>11</sup>				Total
	THUF	average THUF <sup>12</sup>	pc	average pc <sup>13</sup>	THUF	average THUF	pc	average pc	THUF	average THUF	pc	average pc	THUF	average THUF	pc	average pc	THUF	average THUF	pc	average pc	THUF
1995	7,284	110	66	0.86	2,519	126	20	2.00	3,160	198	16	0.21									12,963
1996	10,346	134	80	0.03	2,943	134	22	2.20	925	185	5	0.06									14,214
1997	14,456	155	93	1.07	3,673	160	23	2.30	3,315	207	16	0.18	690	69	10	1					22,134
1998	23,857	154	155	1.78	5,064	158	32	3.20	1,410	235	6	0.07	655	66	10	1	400	100	4	1	31,386

Figures include all returned questionnaires.

<sup>10</sup> A form of grant existing since 1997.

<sup>11</sup> A form of grant existing since 1998.

<sup>12</sup> HUF amount per grant type (travel, event, conference, workshop etc.)

<sup>13</sup> Travel (conference etc.) grant per action in the given year.

Application for various event (conference, workshop etc.) grants can be submitted in the same manner. At present, the granted amount can be, depending on the number of participants, maximum HUF 300,000. This may cover the following items: preparation and mailing of letters and invitations, rent of the facilities plus connected technical expenses, phone, fax and telex costs, transportation of invited participants within Hungary and organizational costs.

Table 2 indicates that OMFB COST and EUREKA Secretariat tries to provide further financial support to COST action participants in two ways. On the one hand, it strives to help COST programme participants through the constantly expanding grant options; in 1998 TC members and MC chairmen may request grants, besides travel and event (conference, workshop etc.) costs, also for the administrative costs of their COST activities. On the other hand it tries to find OMFB funds for two travel grants per year for action leaders (once for MC1, then MC2) in order to facilitate their participation at the meetings. This latter is an especially important option as financing the participation at two or three MC meetings often poses an unsolvable task for Hungarian scientists (while their colleagues from COST member countries contributing to EU frame programmes receive appropriate grants from Brussels enabling them to participate in all meetings)<sup>14</sup>. In 1998 more travel grants per action become available as a consequence of putting more emphasis on the optimization of travelling costs.

Next we shall discuss some further characteristics of grant distribution. When surveying (MC) travels between 1995 and 1998 in detail, broken down to actions we have found that one fifth of these had not requested/received any travel grants from OMFB. The amount of annual average travel grants received by the other 123 actions has shown a rather significant variance, too, varying between HUF 78 thousand and HUF 400 thousand (with an average of HUF 111 thousand). In the course of the four years we have investigated there were altogether 377 travels i.e. three travels were implemented within one action on the average, nevertheless there were quite big differences: one fourth of the actions had only one such trip, while one tenth traveled more than five times in this period. In the action accompanied with the most trips, Hungarian members participated at COST meetings thirteen times within four years.

Table 3 shows the distribution of travel grants related to the actions, broken down to scientific domains. There are some areas which receive much more grants than the average. Based on the data this was less due to their exceptional position than to the fact that all these actions actively used travel grant opportunities in their respective research area. Seemingly, the activity of TC members and MC leaders working in the given area are significant factors of obtaining utilizable funds. Within the individual scientific fields, groups can be set up according to the grant amount and the number of actions using these. One of the groups (forestry, physics, food) can be characterized by a low number of actions implemented in the respective scientific field, while its OMFB support exceeds the average and only one of these actions has not requested/received support. The other group (telecommunication, chemistry) exhibits several actions each area having 10% of the total support, respectively, nevertheless average grant per action is not too high – in spite of the fact that many of these actions have not requested/received any support (one third of all actions - altogether 11).

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<sup>14</sup> This problem shall be solved from 1999 on, as Hungary shall become a member of EU 5. KTF.

Biotechnology has a paramount role, where both the number of actions as well as grant per action was high. According to our experiences these group characteristics *are not independent* from the work and activities implemented by the TC member of the respective field and are in a close correlation with his/her activity and enthusiasm.

**Table 3**  
***Distribution of travel support per scientific fields between 1995 and 1998***

	Support (in percentage of total support)	Total number of actions	Actions (in percentage of all actions)	Number of actions not requesting any support	Average support per action. HUF thousand
<b>Telecommunication</b>	10.0%	23	15.0%	8	236.87
<b>Transport</b>	8.7%	13	8.6%	3	362.38
<b>Material science</b>	3.6%	11	7.2%	3	177.09
<b>Environment protection</b>	9.1%	13	8.6%	3	379.46
<b>Meteorology</b>	4.9%	11	7.2%	3	240.73
<b>Biotechnology</b>	19.1%	21	13.8%	0	495.00
<b>Food</b>	11.0%	12	7.9%	1	497.58
<b>Social science</b>	3.6%	8	5.3%	3	246.00
<b>Medical science</b>	3.9%	7	4.6%	2	299.71
<b>Construction engineering science</b>	1.5%	3	2.0%	1	267.67
<b>Chemical sciences</b>	10.3%	15	9.9%	3	372.00
<b>Forestry</b>	8.6%	9	5.9%	0	516.89
<b>Physical sciences</b>	2.4%	3	2.0%	0	440.33
<b>Other</b>	3.3%	3	2.0%	0	589.67
<b>Total</b>	100.0%	152	100.0%	30	356.88

Next we shall see some of the typical opinions of the above mentioned TC members. The returned questionnaires contained the opinion of twelve TC members. The following short analysis relies on the data received from these which is amply complemented by the information obtained from the in-depth interviews on TC operation.

Four of the twelve TC members became Hungarian representatives of their scientific field in Brussels only from 1998 on, nevertheless some others have been members since the beginning i.e. 1991. They traveled to various meetings 68 times altogether (this means more than five trips per member on the average). When they were asked about the benefits of TC membership, most of them mentioned the importance of international contacts and the acceleration of information flow as the most important result of the Hungarian/their membership. The significance and value of these contacts and information is shown by their positive answers to the question whether their costs have been proportional to their benefits. The picture was less positive when they were asked whether their expenses had been covered by the grants received from OMFB: six TC members answered negatively. According to their responses, during

their TC membership they had to invest altogether more than a million Forints (HUF 1,252,000) from their own resources.

Next we shall briefly discuss the data and opinions related to conferences/workshops organized in Hungary in connection with COST.

Altogether 37 action leaders reported on having organized at least one COST event (conference, workshop etc.) from OMFB grants in Hungary. Based on the responses it can be stated that an average event (conference, workshop etc.) was attended by more than twenty scientists, and only one action leader reported on an event (conference, workshop etc.) with less than ten participants. 60% of these were three-days conferences or workshops, practically all other events were two-days meetings, however, there was one event lasting for four, five and seven days, respectively. In spite of the fact that OMFB grants were not intended for publishing activities, 61.1% of actions reported on having published some materials subsequent to the domestic event. Of course the conferences were financed not only by OMFB; based on the responses given in the questionnaires 37% of the expenses were covered from OMFB funds on the average, while the majority of the resources came from foreign resources. Perhaps this is why more than the half of responding persons (56.8%) stated that the given meeting would have been organized even without the OMFB grant. The real motivation for organizing the event (conference, workshop etc.) in Hungary was (according to the responses to the open question) to enable the foreign colleagues to get better acquainted with our country, institutes, research fellows - and these positive, personal impressions may be useful at some later date.

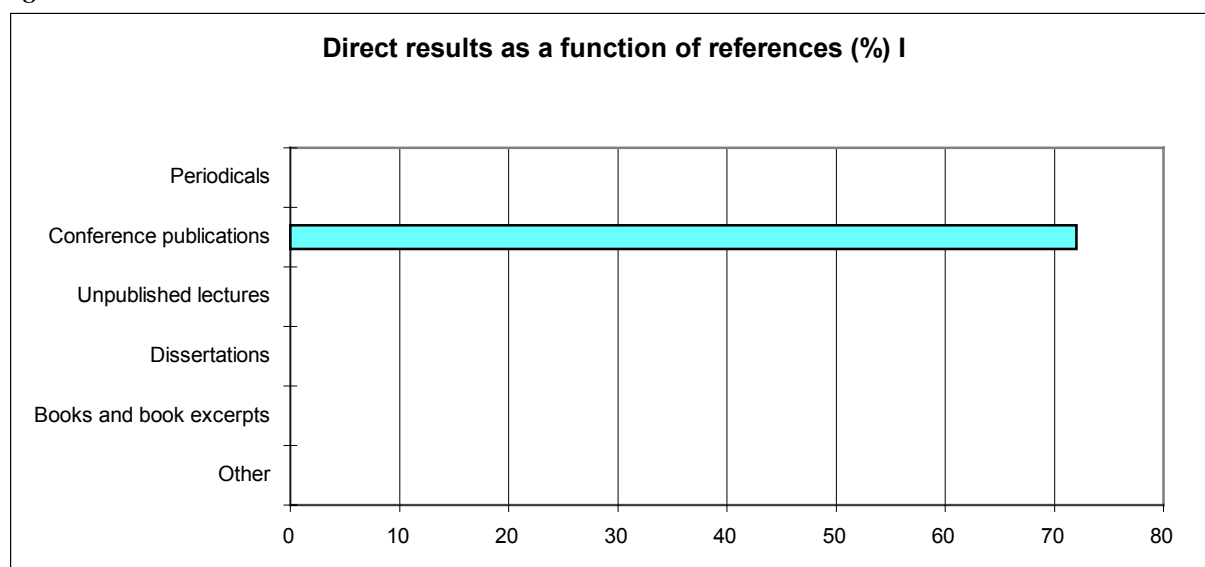
## **5. Results**

In general, COST actions comprise basic research and/or pre-competitive scientific and technological research activities, thus results may mostly appear in the form of articles in periodicals, lectures, new contacts and research partners. It is rather difficult to account for results of these types due to their “softness”, variable character. For this reason we tried to use several methods and various questions to measure the efficiency of actions.

### **5.1. Direct results**

Figure 5 shows a possible enumeration of direct action results. The easiest task was to quantify the number of papers published by Hungarian participants in connection with COST research results. The Hungarian members of most actions have published an article in some scientific periodicals (78.5%) or conference documentation (72%) on COST co-operation topics. More than half of the scientist (54.8%) delivered also a lecture in the given topic at some conferences.



**Figure 5**

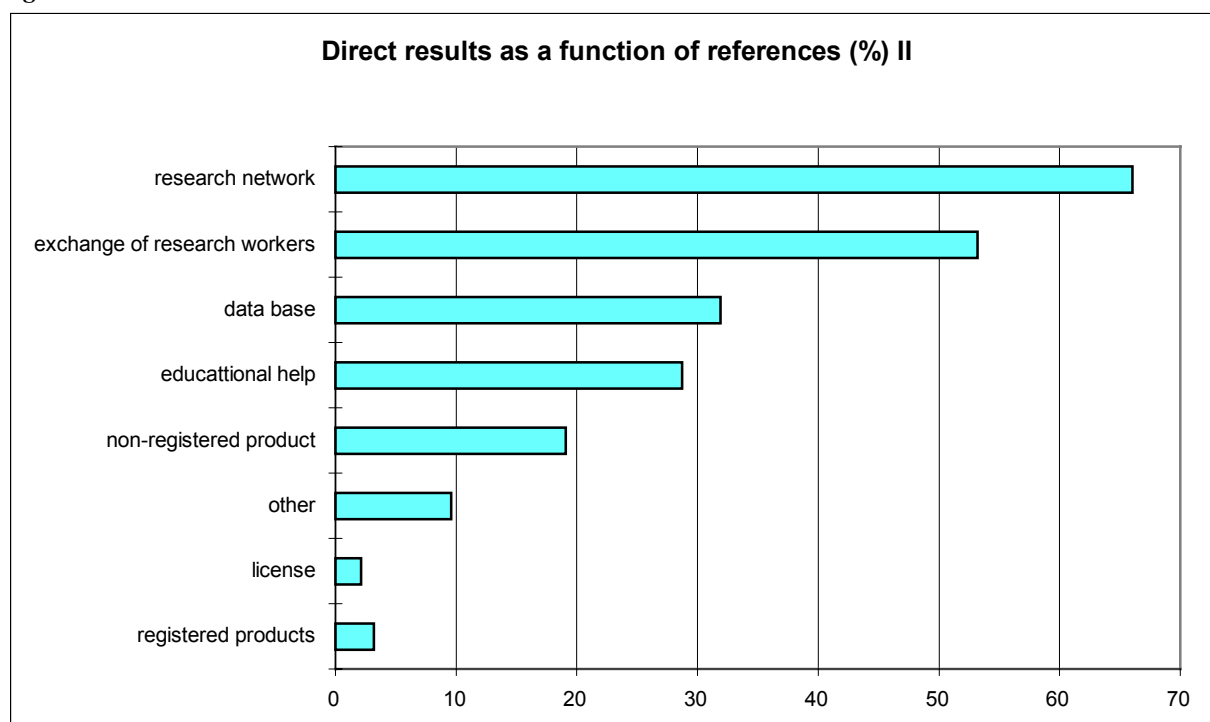
The successful involvement of young scientists in the actions is shown by the fact that 45.2% of respondents reported about preparing also a thesis or dissertation in the framework of the given action. According to the experiences we have gained in the course of in-depth interviews, one of the significant benefits of COST is to enable the young generation to enter the international scene, carry on consultations and establish professional contacts. This was also facilitated by the size of action meetings – these were not enormous conferences giving not much opportunity for presenting new (and, for this reason, perhaps not fully mature) ideas, nevertheless the participants were renowned enough to formulate relevant professional criticism, proposals and opinions. It was told in more than one in-depth interview that there was a strong endeavor to have young scientists among the Hungarian already at the very start. Thus young scientists might acquire significant experiences in European co-operation during the 3-4 years of the action what may pay its “dividends” in case of possible future projects. The problem posed for the respondents resulted from the situation of the Hungarian labor market after 1991 when there was a strong demand exactly for this group (young multilingual university graduates), thus it was very difficult to retain these young people by offering them a university or academic position with state employee wages. We have found in several interviews that two or three young people joined the action, nevertheless the majority of them went over to the competitive sector. (There were even cases when the young Hungarian scientist was “invited” to work at the foreign COST partner’s university!)

Another successful COST action area for Hungarian scientists implied the acquisition of international scholarships (covering a period of some weeks or months). Since 1994 the actions have the possibility to send, in order to increase mobility, maximum two action members per year to a so-called Short Term Scientific Mission (STSM) to another country involved in the action. All action leaders receive HUF 11,500 per year for this opportunity. Seven times ECU 1500 may be paid out as scholarships, while the remaining ECU 1000 covers administrative costs. Hungarian scientists have

received 27 such scholarships between 1994 and 1996, and hosted 18 foreign scientists coming to Hungary with a similar scholarship<sup>15</sup>.

The returned questionnaires indicate that 53% of the actions enabled an exchange of scientists or some scholarship options. Figure 6 indicates also that for the majority of participants the establishment of new research network (66%) and/or the strengthening of the old one is the decisive point.

**Figure 6**



Both data and in-depth interviews indicate that leading Hungarian scientists deem the expansion of the international research network and the roll-out of connections as the most important result and outcome. When investigating the content of these connections in detail, the following results were mentioned in the questionnaires.

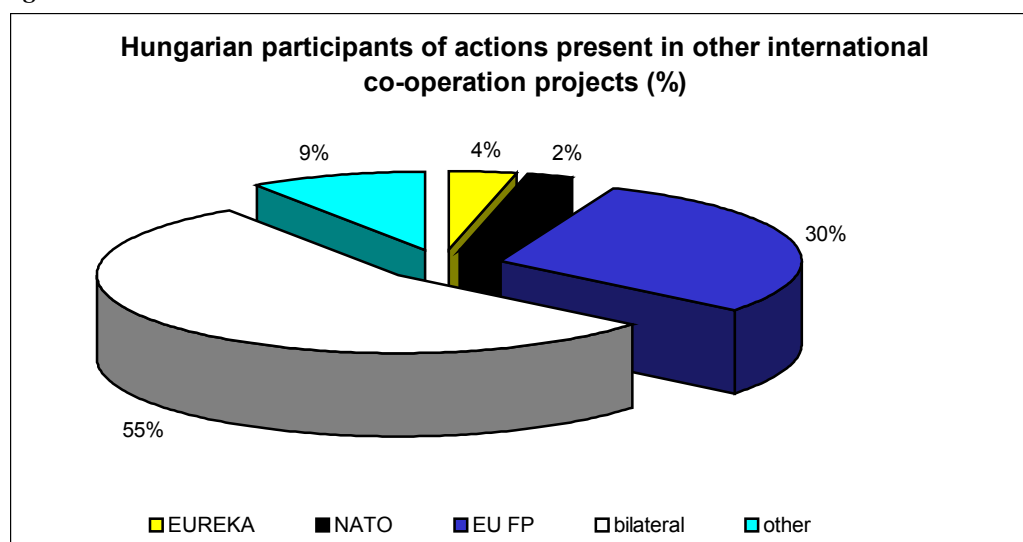
Data in *Table 4* show that COST enabled every third action to acquire another new international research project, which proved to be successful. Furthermore, 15% of them have submitted, together with their foreign partner, an application for some grants what does not necessarily mean the receipt of financial funds but may convey useful knowledge and experience for a successful participation in EU 5<sup>th</sup> Framework Programme being opened for them in 1999. Another aspect of COST success is that each fifth action on the average enabled the Hungarian partner to work and/or study at a Western university or institute for some time, thus enhancing his/her professional contacts.

<sup>15</sup> Data source as well as further general information on COST STSM: COST Evaluation, March 1997, Appendix D

*Table 4 – Some characteristics of actions results*

Results, achievements	Number of actions	Proportion of actions
New, successful international projects	33	31
Joint publications	25	26
Joint events (conference, workshop etc.)	10	10
Joint applications	14	15
Scholarships	20	21

We requested the Hungarian action leaders to try to remember whether they had any international R&D experience at the beginning of the COST action. Concurrently we posed the question whether at present they participate in any other international R&D co-operation activity. Subsequent to comparing the answers we found that from the 26 actions having no other international experience prior to COST, 12 have already launched some type of R&D projects. (Figure 7 gives more information on the type of projects COST participants are presently involved.) Bilateral international contacts prevail, nevertheless it is worth mentioning that nearly one third (30%) of COST co-operation participants was an active member of EU 4<sup>th</sup> Framework Programme.

*Figure 7*

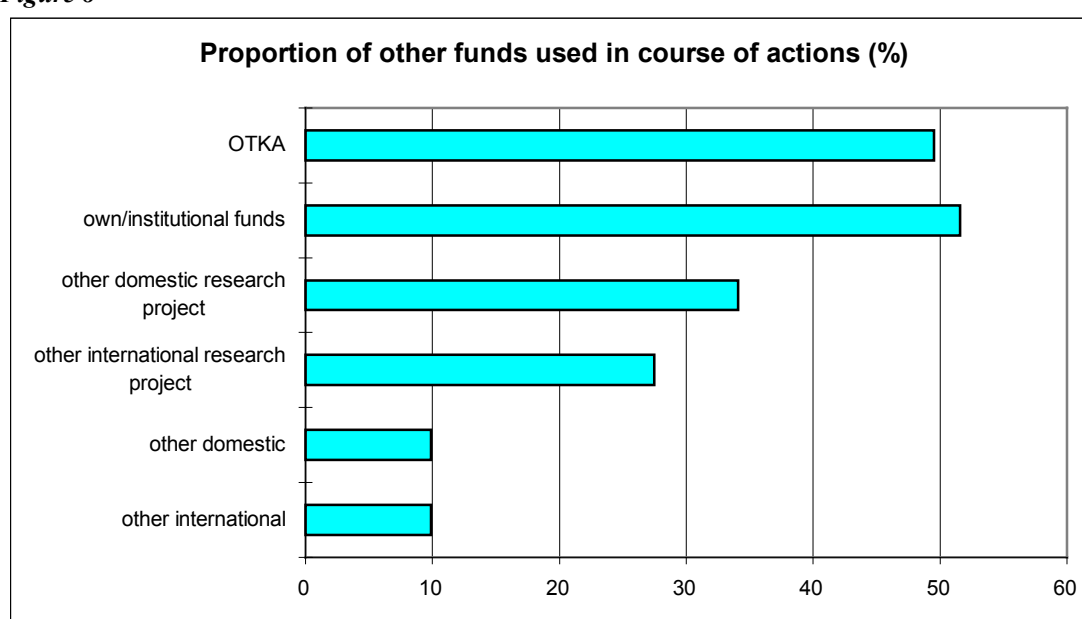
## 5.2. Indirect results

In course of the evaluation it was inevitable to scan financial aspects – at least we made this finding first of all in the course of personal interviews. Financial resources are rather scarce in research activities, thus one has to pose the question whether the action is worth the work, organizational activity and intellectual expenditure (none of the participants had any doubt in connection with the moral success, while some of them were rather skeptic as to the financial benefits). Let us see what the figures speak about!

We requested the action leaders to specify the amount granted by OMFB in order to cover travel costs and/or conference/administrative expenses. Comparing these responses with the above data calculated for the total sample we usually got similar average results. On the average they requested HUF 399 thousand (the figure relating to the basic sample was HUF 357 thousand), for conferences they requested HUF 209 thousand (HUF 216 thousand in the basic sample). This means that figures from the survey were fair enough, and the consequences drawn from these are realistic.

Besides OMFB grants we also asked them about the other funds used for the actions by the participants. Figure 8 indicates the percentage distribution of funds used by the participants. Most of them mentioned OTKA, but the role of international research funds was also significant – based on our interviews we may say, the magnitude of these was higher than that of domestic project resources.

**Figure 8**



Some of our questions in the questionnaire related to the magnitude of the participants' own (institutional) expenditures as well as other domestic and international resources obtained through COST contacts, the first of these was HUF 109 million (HUF 1.03 million per action), while the latter was HUF 553 million (HUF 5.22 million per action).

In case of each action we compared the proportion of OMFB grants (total HUF amount received through the R&D Infrastructure Programme) with the size of other resources used in connection with the action (all resources in the questionnaire). We have found that grants provided by OMFB amounted on the average to 34% of all resources used. In half of the actions the size of OMFB grants did not exceed one quarter of all resources used.<sup>16</sup> (Table 5)

The amount of grants mobilized, used and/or obtained in connection with the action (i.e. new resources which presumably would not have been acquired and/or used

<sup>16</sup> In other words, arithmetical average is 34, while median is 25.

without COST) was HUF 826.5 million i.e. HUF 7.8 million per action. If we calculate the average without the actions launched in 1998 (as these impacts shall presumably appear there only after 1998), then the average shall be increased to HUF 9.3 million.

Comparing the financial resources mentioned in the questionnaire and received in connection with co-operations resulting from COST actions, on the one hand with the amounts granted to the actions by OMFB, on the other hand, we may see (as shown in the next table) that the amount of mobilized financial funds was many times higher than that of the original amount. Based on the figures it seems likely that OMFB grants shall be “recovered” at an always increasing extent: while the ratio of mobilized and original funds is 15:1 (HUF 536 million versus HUF 36 million) in case of the ongoing actions, the same ratio is 22:1 (HUF 290 million versus 13 million) at the completed actions. The above ratios indicate that the mobilized financial resources surpass the magnitude of COST action grants many times, thus helping to strengthen the domestic R&D segment.

**Table 5*****Distribution of financial funds received from OMFB / total funding broken down according to action type (completed / ongoing actions)***

	Number of actions	Pro- portion of actions	Grants from the „Mecenatúra” Fund				Total funding stated in the questionnaire			
			Average <sup>17</sup>	Median <sup>18</sup>	Total HUF thousand	Total %	Average <sup>19</sup>	Median <sup>20</sup>	Total HUF thousand	Total %
<b>Completed</b>	34	32.1%	472	411	13208	26.7%	8532	1356	290097	35.1%
<b>Ongoing</b>	70	66.0%	527	469	36335	73.3%	7663	1200	536394	64.9%
<b>In preparation</b>	2	1.9%								
<b>Total</b>	106	100%	511	443	49543	100.0%	7797	1200	826491	100.0%

Source: own evaluation by questionnaire, N=106

<sup>17</sup> Per action in thousand HUF<sup>18</sup> Per action in thousand HUF<sup>19</sup> Per action in thousand HUF<sup>20</sup> Per action in thousand HUF

## 6. Summary, proposals

Hungarian scientists and research teams have joined COST co-operation really successfully (till 1998 they participated in 153 actions). The programmes covering practically all areas of science were implemented with the participation of nearly 700 Hungarian scientists and technological experts. The grants received from OMFB enabled more than 370 scientific trips and 30 domestic conferences<sup>21</sup>. Besides non-quantifiable external impacts it is worth noting that each Forint granted by OMFB “mobilized” additional 15-20 Forints to facilitate domestic R&D activities.

In sum we may formulate some consequences with respect the following three areas, which are concluded from the results of the survey:

- **ACTIONS** The connection system of the participants has been expanded due to the supported actions, they have acquired international research and grant application experiences, what may prove to be especially useful from the point of view of the Hungarian R&D potential in the EU 5<sup>th</sup> Framework Programme No. 5 to be launched soon.
- **TC members** With respect to the significance of the TC members’ activities representing Hungary in the Brussels committees we have stated that this has enabled Hungarian scientists to join new actions still on time. Intensive committee activities have also another, not insignificant effect: several of our former TC members have become employees of the COST Secretariat of the EU Committee by now, what makes quick information flow between Budapest and Brussels, Hungary and EU simpler, too.
- **Hungarian MC chairmen** By 1998 there are five actions having a Hungarian chairman, what is a significant task and challenge from a professional point of view. This also means domestic research activities are in certain areas of an acknowledgedly high level. This type of scientific executive role is also suitable for strengthening the representation of domestic interests in EU, ensuring financial accounting in line with the work implemented in the actual (not only COST) programmes and creating a situation where the allocation of funds is not a mere reflection of the lower domestic cost level.

As a consequence of all this we have the following proposals in order to ensure the further success of actions.

1. The scope of media used for announcing newly launched actions should be reconsidered and possibly widened (e.g. professional periodicals, Internet, establishing independent mailing lists, green phone number).
2. A monitoring system and time schedule being in compliance with the various actions and/or grant types is to be elaborated for the Secretariat. E.g. it would expedient to survey in case of which actions there were no grants paid in the last twelve months and subsequent to a certain sequence of actions (phone call, official letter etc.) even some forms of withdrawal could be considered.

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<sup>21</sup> Data relating to the period after 1995.

3. Our joining EU 5<sup>th</sup> Framework Programme (what seems to be realized in the near future<sup>22</sup>) should not interfere with the well-established system of grants developed since 1991. The unchanged form (grants financed through “Mecenátúra” Office) could have the advantage that actions participants were not compelled to find own funds i.e. finance expenses in advances as money is transferred from Brussels in 6-9 months on the average. Our proposal actually implies that actions would be financed by OMFB instead of the participants and the money transferred from Brussels would be returned to the “Mecenátúra” Office.
4. The two new funding forms introduced for Hungarian scientists (administrative support of TC members and Hungarian MC chairmen) should be kept after joining EU 5<sup>th</sup> Framework Programme, too.

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<http://www.cordis.lu/cost>

<http://www.omfb.hu>

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<sup>22</sup> The official date when Hungary joined the FWP5 was August 1, 1999 (the editor).



# Evaluation of Hungarian COST activities

October 1998

# A

A.1. Action number .....  
 Action title in Hungarian: .....  
 .....  
 Action title in English: .....  
 .....  
 Name of the Hungarian action leader: .....  
 Name of your institution in Hungarian: .....  
 .....  
 Name of your institution in English: .....  
 .....  
 Phone: ..... Fax: ..... E-mail: .....

A.2. Have you or your group (department, university department, research work group etc.) had any other international co-operation project prior to the start of the COST action and/or have you participated in implementing such a project of basic or applied research in the framework of international co-operation?

- yes ..... ☐
- no ..... ☐

A.3. Do your or does your group (department, university department, research work group etc.) participate in R&D activities implemented in international co-operation?

- yes ..... ☐
- no ..... ☐

If yes, in which? (multiple choices are possible)

- EURECA ..... ☐
- NATO ..... ☐
- EU Framework Programme ..... ☐
- bilateral co-operation ..... ☐
- other (please give details) ..... ☐

A.4. Number of Hungarian participants in the action.....persons

A.5. We should like to ask you about some characteristic features of the Hungarian members participating in the action. (If you were the only participants, then please state your sex, age, scientific degree and position in the first column only. If there were more participants, then please characterize the two most active members in columns 2 and 3.)

	YOU	ONE ACTION MEMBER	ANOTHER ACTION MEMBER
SEX	Male..... <input type="checkbox"/> Female..... <input type="checkbox"/>	Male..... <input type="checkbox"/> Female..... <input type="checkbox"/>	Male..... <input type="checkbox"/> Female..... <input type="checkbox"/>
AGE	under 30..... <input type="checkbox"/> 31-40..... <input type="checkbox"/> 41-50..... <input type="checkbox"/> 51-60..... <input type="checkbox"/> above 61..... <input type="checkbox"/>	under 30..... <input type="checkbox"/> 31-40..... <input type="checkbox"/> 41-50..... <input type="checkbox"/> 51-60..... <input type="checkbox"/> above 61..... <input type="checkbox"/>	under 30..... <input type="checkbox"/> 31-40..... <input type="checkbox"/> 41-50..... <input type="checkbox"/> 51-60..... <input type="checkbox"/> above 61..... <input type="checkbox"/>
SCIENTIFIC DEGREE	.....	.....	.....
POSITION	.....	.....	.....

## A.6. How did you learn about the possibility of participating in COST?

- via Internet, from electronic data base ..... ☐
- through domestic professional connections ..... ☐
- from OMFB ..... ☐
- from the international partner(s) ..... ☐
- other sources (please give details): ..... ☐

## A.7. How did the Hungarian participant join the COST action?

- was invited by the domestic initiators, participants of the action ..... ☐
- was invited by the international initiators, participants of the action ..... ☐
- on its own initiative ..... ☐
- on the initiative of the national COST co-ordinator / OMFB COST Secretariat ..... ☐

**Questions related to OMFB support**A.8. Have you received any financial support from OMFB enabling you to participate at the meetings or to organize events - *total* (since the start of the action)?

- participation at Working Group (WG) and/or Management Committee (MC) meetings
- yes ..... ☐
- no ..... ☐

If yes, please state approximate amount ..... HUF

- participation at Technical Committee (TC) meetings

- yes ..... ☐
- no ..... ☐

If yes, please state approximate amount ..... HUF

*Please fill in Form B*

- organized domestic COST event

- yes ..... ☐
- no ..... ☐

If yes, please state approximate amount ..... HUF

*Please fill in Form C*

## A.9. Have you received any financial support from OMFB to R&amp;D activities connected to the topic of the action?

- yes ..... ☐
- no ..... ☐

If yes, please state approximate amount ..... HUF

## A.10. Please state the amount you think your institution provided for the operation of the action per year on the average

..... HUF / year

..... man / year

## A.11. If there were other than OMFB funds for COST research activities, what were these? (Multiple choices are possible)

- OTKA ..... ☐
- other domestic research project (no OMFB) ..... ☐
- other international research project ..... ☐
- own/institutional fund ..... ☐
- other domestic ..... ☐
- other international ..... ☐

### Professional results of the action

A.12. Publications of the Hungarian members as a result of the action. Please mark the type which occurred during the action or which is planned to be made!

(Multiple choices are possible)

- periodical ..... ☐
- book, book excerpt..... ☐
- conference publication..... ☐
- unpublished conference/workshop lecture..... ☐
- dissertation, thesis..... ☐
- other..... ☐

A.13. Impact of action on direct scientific public? (Multiple choices are possible)

- registered product or procedure ..... ☐
- product or procedure license..... ☐
- non-registered product or procedure..... ☐
- data base, software, audio/video recording..... ☐
- training help/material, coursebook..... ☐
- agreement on the exchange of scientists or students..... ☐
- establishment of a new research network or strengthening the old one..... ☐
- other..... ☐

### Contribution of COST contacts to launching other projects and activities

A.14. Have any new international R&D projects been established by the help of COST contacts?

- yes..... ☐
- no ..... ☐

If yes, then specify type and value ..... HUF

A.15. Have any other results been established by the help of COST contacts (joint publication, joint event, joint application, scholarship etc.)?

- yes..... ☐
- no ..... ☐

If yes, then specify type .....

A.16. Please evaluate the usefulness of co-operation with the foreign partners! For each statement give scores between 1 and 5 by marking the respective boxes. (1 – not important, 5 – very important)

	1	2	3	4	5
better and quicker access to information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
more efficient research due to the flow of knowledge and transfer of methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
avoidance of parallelisms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
access to more favorable R&D funds for financing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
more acknowledgement (domestic and international)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the need for information exchange in general	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
widening the own research horizon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
establishing new contacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A.17. How do you evaluate the domestic and international management and organizational activities of COST co-operation? For each statement give scores between 1 and 5, both for domestic and international management! (1 – not suitable, 5 – excellent)

	Domestic					International				
	1	2	3	4	5	1	2	3	4	5
information and help received from COST Secretariat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
time schedule and rapidity of transferring financial support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
support to COST workshops and other meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
realistic character of interim reporting commitments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
realistic character of final reporting commitments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
help to publish and publicize results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Development and future of COST contact network

A.18. What would you propose in order to enhance domestic COST network?.....  
.....

A.19. What would you propose in order to enhance international COST co-operation?.....  
.....

A.20. Any other remarks or proposals not included in the questions but related to the topic? .....  
.....

A.21. Would you like to participate in a COST action again?

- yes..... ☐
- no..... ☐

If yes, what did you consider as the best part of the programme? .....  
.....

If no, what was the main issue that made you reluctant to participant in a new action? .....  
.....

Please fill in and return the questionnaire **by next post** to the following address:  
MTA Kutatásszervező Intézet /Research Organization Institute of the Hungarian Academy  
of Sciences/, 1245 Budapest, P.O. Box 994.

## Evaluation of Hungarian COST activities

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# B

**This form is to be filled out only by persons having received travel grants for COST TC meeting participation (see question A.8.)!**

B.1. How long have you been a TC member? Since.....

B.2 How many TC meetings did you participate in until now? ..... pc

B.3. Does the Hungarian representation have any influence, impact in the TC? (Please give details)

.....

.....

B.4. Does the Hungarian TC representation have any influence on the Hungarian activities within the respective scientific field? (Please give details)

.....

.....

B.5. What are the other benefits of the membership? (Please mark the three most important ones)

- enables the acquisition of specific information..... ☐
- is part of the international contact system of the scientific field..... ☐
- provides grant application opportunities..... ☐
- accelerates the information flow ..... ☐
- facilitates education ..... ☐
- studies not accessible in other ways can be obtained..... ☐
- other ..... ☐

B.6. In your opinion what is the amount of non-OMFB funds you and/or your institution have /has invested to cover TC representation related costs?

.....HUF per year

B.7. If there were any additional resources enabling TC representation, what were these?

.....

B.8. Do the administrative support grants cover the pertinent costs and organizational expenditures of the institution?

- yes..... ☐
- no ..... ☐

B.9. Is there a positive balance of costs and benefits - even if you calculate the time, work, organizational activities and possible travel inconveniences?

- yes..... ☐
- no ..... ☐

B.10. Is there any international professional organization (association, society) where you have some higher position (chairman, deputy chairman etc.)?

- yes..... ☐
- no ..... ☐

B.11 Had your institution have membership in an international professional organization which had to be cancelled due to financial reasons since 1991?

- yes..... ☐
- no ..... ☐

## Evaluation of Hungarian COST activities

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# C

This form is to be filled in only by person having organized a domestic COST event (WG meeting, MC meeting, TC meeting, conference) and received some OMFB grant to it (see question A.8.)!

C.1. How many participants attended the latest COST event in Hungary?

- less than 10 persons ..... ☐
- 10-19 persons ..... ☐
- more than 20 persons ..... ☐

C.2 How long did the latest domestic event (conference, workshop etc.) last? .....days

C.3. Has any publication been prepared on the event the papers in which qualify as scientific publications?

- yes ..... ☐
- no ..... ☐

C.4. Financial resources available for organizing the latest event (conference, workshop etc.) and their ratio?

- OMFB ..... ☐ .....%
- other domestic research project (OTKA, OKTK etc.) ..... ☐
- other international research project ..... ☐
- own/institutional fund ..... ☐
- other domestic ..... ☐
- other international ..... ☐ .....%

100 %

C.5. Would you have organized it even without OMFB funding?

- yes ..... ☐
- no ..... ☐

C.6. What was the reason for organizing a meeting (also) in Hungary?

.....

.....

.....

.....

.....

.....

.....

After having answered all questions please return the questionnaire **by next post** to the following address:

MTA Kutatásszervező Intézet /Research Organization Institute of the Hungarian Academy of Sciences/, 1245 Budapest, P.O. Box 994.

## Interview guidelines

Introduction: brief presentation on COST evaluation, points of view of selecting the person being interviewed

- I. Short professional CV of the person being interviewed, his/her (former) domestic and international projects, jobs, education
- II. Short description of the actual institute
- III. Short description of the COST action (TC membership)
  - short professional summary (research topic)
  - short historical background
    - how did he/she get here, where did the recommendation come from
    - method of operation, is this what he/she expected, is he/she satisfied with it-e
    - dynamics of co-operation network: were there any changes in the following areas:
      - number of contacts
      - contact characteristics
      - contact quality
      - contact intensity
      - central role of the organization/institution/person being interviewed
      - geographical distribution of contacts
      - direction of the initiatives
      - the ability to enforce interests
    - has this action/TC helped him/her to contact an important partner in the given scientific field?
    - what are the results/what does he/she expect as result
      - publications
      - intellectual property
      - increase of knowledge in case of
        - technology
        - R&D background materials
        - other (language skills, scientists, programmes, scholarships)
      - has the internal and external co-operation ability improved
      - has the R&D adsorption ability of the company/institute improved
      - has the organizational goodwill/image improved
        - in view of the users, (other) universities, institutes, civil organizations, media and the public
- IV. Evaluation of additional results
  - behavior of the organization
    - decision on investments
    - internal reorganization
    - young staff
    - communication, languages
    - establishment of strategic alliances both from the domestic and international side
- V. Institutional and development policy
  - Questions of general development policy
    - Does the domestic economic environment support successful R&D activities and the exploitation of its results?
    - If yes, which are the main elements of the support?
    - If no, what measures would be necessary in your opinion?
    - Have you experienced any changes in the system of economic policy conditions of R&D activities since submitting the application? If yes, which are these?
  - OMFB institutional strategy (not necessarily COST, only in case it is known to him/her)
    - Is the evaluation of application objective enough?
    - Is evaluation in line with the appropriate points of view?
    - If no, what were your recommendations?
    - Do you have any remarks or proposals relating to contracting or application management?
    - Do you have any proposals in connection with grant amount and method, terms of payment or performance control?
  - OMFB innovation and technological development activities

### III

- Is the issue of innovation appropriately represented by OMFB in front of the public?
- Has he/she got any information on OMFB initiatives and proposals intended at to making economic policy more innovation-friendly
- Does he/she think OMFB's PR innovation-targeted activities are appropriate or has he/she got and recommendations?